MONO RAILWAY

Proposal outlining the potential of a new railway serving the eastern Sierra Nevada region of California between Mojave and Reno Nevada. The purpose of this proposal is to raise initial funding to pursue study of the project.

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c Suntrain Incorporated 1991

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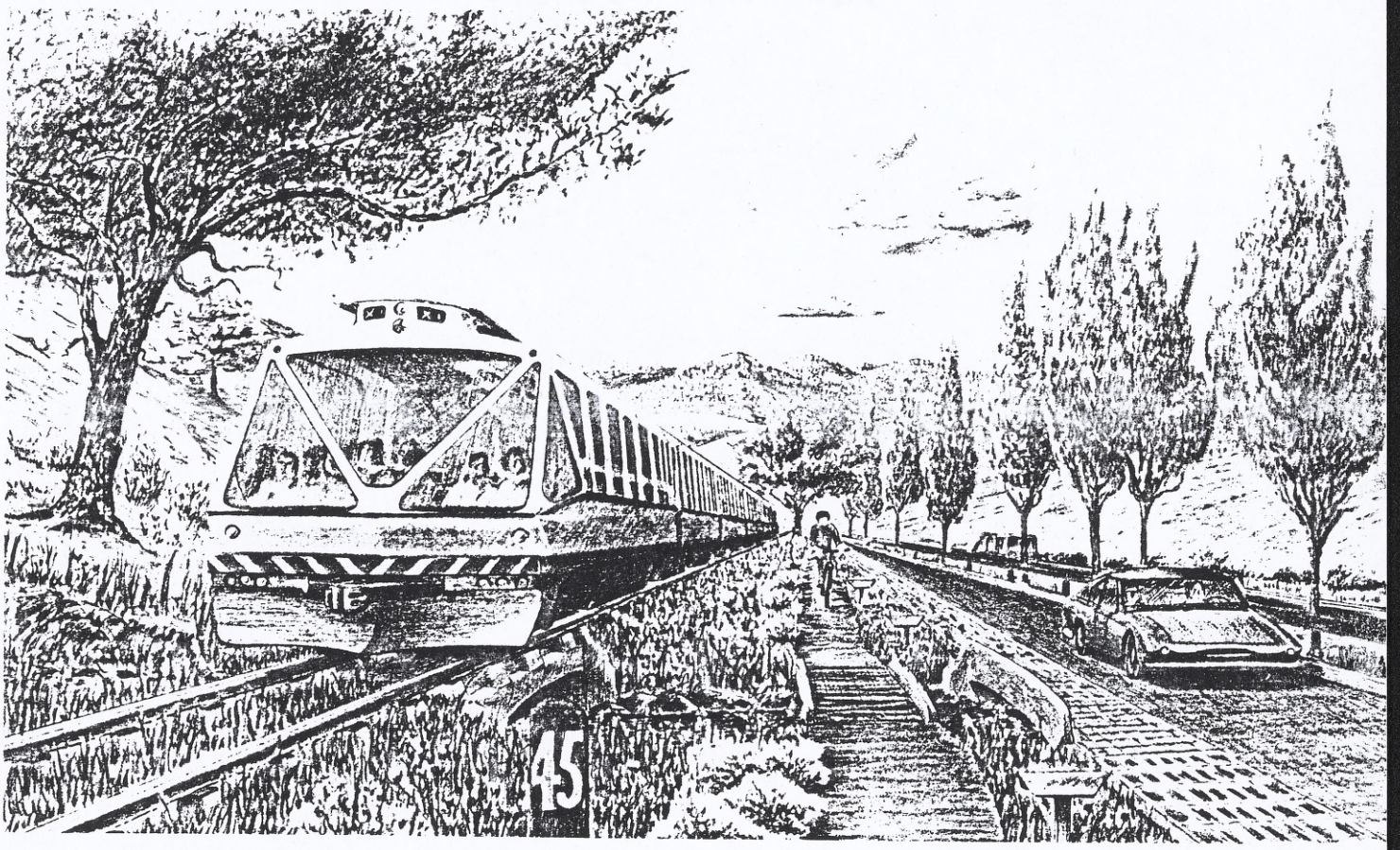

View of typical right-of-way where track parallels a divided two-lane highway and bike/hiking trail. Landscaped track, as shown, would only be used in environmentally sensitive segments near towns or major recreation attractions. The train is composed of a head-end lounge unit and a number of coaches.

Mono Railway
EXECUTIVE SUMMARY

The Mono Railway is proposed as a new single track railway between Los Angeles and Reno Nevada designed to provide passenger and freight services to the Eastern Sierra. The railway will require construction of about 350 miles of new track (43% on former railroad roadbeds), while utilizing about 160 miles of existing Southern Pacific track--Los Angeles to Searles.

The proposed railway would provide passenger services using Suntrain designed equipment integrated with local van and rental car services at major stations. "Suntrain Service" would include train, van, rental car and on-board dining services all on one ticket--door-to-door transportation. Local, commute, business and recreation markets would be served throughout the corridor.

The Mono Railway is conceived as a regional economic development program. Many stations would be developed in conjunction with existing and new recreation facilities, designed to increase visitation while decreasing auto use and related environmental impacts.

It is expected the proposed railway will increase the region's marketability, as a place to visit, live or locate industry, by eliminating three key limits on access: Traffic congestion in the greater L.A. area; the long drive on boring desert roads; and the dangers of driving in winter. The railway's parallel communication system will allow development of state-of-the-art telecommunications in the region.

Suntrain Inc. proposes to manage development of the entire rail system--inception to completion--integrating community participation to achieve a consensus in an uncommonly short time.

The Mono Railway is conceived as a public-private program with public funding from special assessment districts capturing value from station area properties improved because of the railroad's construction; state funds that would otherwise be spent on widening highway 395; state gas tax funds; and possibly federal funds. Track, estimated to cost $1.3 billion, would be publicly financed. Equipment, stations and related development, estimated between $300-500 million, would be privately funded. The railroad would achieve a 15% return on operations.

To initiate the project Suntrain is seeking $150,000. in private funds to be used to elaborate on the concept and present it to the community.

Mono Railway
PROJECT DEFINED

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* *Passenger and freight transportation system*
* *Stations as transportation service centers*
* *Economic revitalization for Eastern Sierra*

Transportation System: The Mono Railway is proposed as a full service passenger and freight transportation system connecting existing track at Searles (east of Mojave) and Reno Nevada. Passenger service would include daily local, intercity and recreation passenger trains between L.A. Union Station and downtown Reno, with major stations in Bishop, Mammoth, and Lee Vining. Freight service would be primarily through trains moving to/from distribution facilities in Reno and the greater Los Angeles area; service would involve intermodal equipment (containers).

Stations would be developed as transportation centers providing integrated van, rental car and related local transportation. In addition, most stations would provide retail services of value to travelers; e.g., travel agents, visitor centers, restuarants, etc.

Route: Route would be predominantly single track roughly paralleling highway 395. From Searles west service would utilize Southern Pacific's existing track to Mojave, where trains would continue over existing S.P./Santa Fe trackage to Los Angeles. North of Searles the new railroad would utilize portions of old railroad and highway right-of-way, plus all new right-of-way. Speed: average of 70 mph, with a maximum passenger train speed of 90 mph on some segments.

Branchlines would be developed from Mammoth Junction to Mammoth Mountain area, and from Carson City to Virginia City, both routes would be for through and local passenger service.

Economic Development: The project will involve a series of community efforts, all along the route, designed to improve the economics of existing businesses, and attract new business. The railroad would be conceived to facilitate and enhance a wide range of tourist activities--summer and winter.

Mono Railway
MARKET

* *Passenger service would be primarily recreation oriented*
* *Trains would divert highway traffic, and attract all new business*
* *Freight service connects L.A. and distribution facilities in Reno*
* *All markets and services make the route viable*

Passenger: The characteristics of the route, heavy traffic in the L.A. area and desert between Mojave and Owens Valley, coupled with winter/summer recreation activities all along the route, suggest the proposed railway would attract considerable business. It is expected that trip times equal to, or shorter than driving times, door-to-door service, the ability to travel regardless of weather conditions, and a pleasant train ride over what can be a stressful and boring drive, would all contribute to the marketability of the proposed service. It is likely that passengers would be diverted from their cars, while others would make the trip **because** the railroad exists--the latter would be all new business to the region.

In addition it is expected the route would attract business travelers, provide commute service into L.A. and between Minden and Reno, and offer a new winter/summer recreation route for Reno area residents.

Throughout the U.S. there is a revival in rail service. Amtrak's passenger volume has grown steadily since 1971, and numerous new intercity rail services are being developed. In addition, over 12 new light rail lines are now operating at capacity, and another 20 are in planning.

Freight: The Reno area has become a major distribution center for a variety of consumer products, while Los Angeles has become a major port of entry. The proposed railway would allow a more direct rail connection between L.A. and Reno, and between Oregon-Washington markets and L.A. Union Pacific and Southern Pacific would tie into the railroad's north end, and Santa Fe and S.P. at the south end--Mojave. Freight service would also result in significant declines in shipping costs to businesses along the Eastern Sierra.

Branchlines: In addition to the primary recreation, business and local travel markets the proposed railway would provide service for local travelers in the Mammoth area, and for recreation trips to Virginia City. The latter now attracts 2.5 million visitors annually.

Mono Railway
TECHNOLOGY

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* *Equipment would function in long-haul and local service*
* *All railcars self-propelled, using "off-the-shelf" components*
* *Standard intermodal freight equipment used by contiguous railroads*

Passenger Equipment: All railcars would be new units designed by Suntrain; coaches, dining, baggage and lounge cars. Each railcar would be self-propelled and capable of operating as a single unit, or as part of a train up to 20 cars long (no locomotive, no electrification). Trains will be capable of 150 mph, although the route would initially be limited to 90 mph. Self-propelled railcars would be capable of functioning to the resort area(s) as a train, then dividing into 1-5 car locals to provide transportation in the region while visitors are there.

Augmenting intercity equipment special railcars would be utilized on the Mammoth branchline. These units would be double-decked (open top deck in summer) and operated between "downtown" and Mammoth Mt. In addition modified baggage/coach units could be developed providing a variety of services, such as camping or skiing equipment rental, allowing development of some recreation areas with minimal impact. Equipment would be moved in during the appropriate season.

Freight Equipment: The proposed railway may involve only modest local freight service, requiring purchase/lease of 2-4 diesel-electric locomotives. Virtually all freight rolling stock would be standard interchange equipment now used on contiguous railroads. The bulk of the potential freight service would involve existing equipment now operated by Southern Pacific, Union Pacific and Santa Fe.

Ancillary Services: The entire railroad would utilize a fiber-optic based communications system for dispatching and signalling. This system could also be used as a high capacity telecommunications system, allowing homes and businesses in the region to have video phone and high volume data transmission.

Paralleling many segments of the railroad will be a trail system designed for biking, hiking and cross-country skiing between stations and to nearby scenic attractions.

Mono Railway
SERVICES

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* *Equipment functions in long-haul and local markets*
* *Service will be diverse, covering all needs in region*
* *Competitive trip time and service compared to cars*
* *Freight service performed by contiguous railroads*

Passenger Services: Intercity, local and recreation services would be developed--all using the same equipment. Most stations would include van and rental car services operated in conjunction with trains; "Suntrain Service," a door-to-door service on one ticket with one phonecall.

Intercity general service would operate from Reno to Los Angeles; 5-15 cars, including dining and lounge services. Recreation trains would be similar, only they would include additional lounge cars (e.g., dancing, entertainment), and baggage service to accomodate recreation equipment. Daily local trains--1-5 coaches--would operate throughout the route.

During weekdays it is expected that a portion of the equipment fleet would be operated in commute markets from Mojave into Los Angeles, and between Minden and Reno--thus increasing equipment utilization.

Initial calculations suggest a typical trip time from L.A. Union Station (many passengers would board further north) to Mammoth of about 4:30 hours, assuming a maximum speed of 90 mph on desert portions (Mojave-Bishop), and a total L.A. to Reno time of about 6:30 hours. Higher speeds may be feasible (e.g. 135 mph, which would reduce the trip time from L.A. Union to about 3:30) but further study is necessary to determine if the additional cost is warranted.

Freight Service: Given development of Reno/Sparks as a regional distribution center and L.A. as a port of entry, it is possible that 395 corridor could become a significant freight corridor.

Consistent with industry trends intermodal freight service would be emphasized. Typically trains would be composed of conventional "piggyback (trailer on flatcar)," "double-stack" (two containers, one atop another), and/or new "Roadrailers." The latter are truck trailers that can go on highway or rail.

Freight service would be operated by existing railroads, possibly all three major California railroads (Union Pacific, Santa Fe and Southern Pacific) could have equal trackage rights.

Mono Railway

ECONOMIC DEVELOPMENT

* *Rail makes the region more marketable by improving quality of life*
* *Rail eliminates all three major problems now limiting access*
* *Rail creates wholly new economic development opportunities*

Diversity of Impacts: The Mono Railway would increase the marketability **of the entire region** as a place to visit, live and establish a business. It would eliminate the "barrier effect" of traffic congestion in the L.A. area, the boring drive (Mojave to Owens Valley), and dangerous winter travel.

An Economic Development Program: The railway design process would coordinate various economic development potentials.

Typically a wilderness station would include bike and camping equipment rentals, as well as interpretive exhibits. Passengers would be able to depart from one station, ride a trail, and return to another station.

In Mammoth rail would allow reductions in parking facilities and enhancement of the environment, thus higher marketability, lower resort operating costs, and far fewer cars, in winter **and** summer.

Rail development would be coordinated with special assessment districts around stations where property owners would be able to develop properties with far less reliance on auto access--narrower streets, less parking--thus allowing more commercial development at lower cost.

In relation to potential residents/businesses the region would be far more marketable. Residents could maintain contact with major cities--e.g., Los Angeles--without a long drive. Access to new telecommunications would facilitate "telecommuting;" working far from big cities.

The region's high quality of life, coupled with lower freight and passenger transportation costs, could result in new businesses moving to the area, thus diversifying the region's economy. Rail freight service could also result in lower retail prices throughout the region.

Winter Conditions: Railroads are far less affected by snow and ice than are highways, and they cost much less to maintain in winter. Compared to highway 395 the railroad would be a truely all weather route. Notably this would result in more skiers visiting the region with **no** concern for the dangers of winter driving.

Mono Railway

STRATEGIC DEVELOPMENT PLAN

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* *Primary feasiblity issue is political, not technical*
* *Project must a public-private venture marketed to whole region*
* *Suntrain will carry project from inception to operations*

Feasibility: The proposed railway would utilize existing technologies over a predominantly established route in mostly mild topography. There is no doubt it is technically feasible.

Financially it would be a major project, requiring the committment of many agencies and local groups, plus a significant measure of state, and possibly federal funds, for track construction.

The primary issues are political. Therefore the development plan is conceived as a process designed to secure political support from a broad base of private and public entities within and outside the region.

Development Approach: The project is proposed as a public-private venture. Given that government is inherently limited by jurisdictional, financial, and political constraints, the program must be initially funded and supported by private interests in the region.

Suntrain proposes to initiate creation of a local entity--profit or non-profit--composed of local civic leaders. Initial funds would be raised in the region. Under contract to this entity Suntrain would work with local/national consultants to create a conceptual plan outlining the entire concept. This would **not** be strictly a technical analysis, but a "broad-brush" overview with emphasis on the **whole** system.

The resulting study would be published in the form of a brochure and large map/poster, with a slide program. These materials would be used in public meetings, to market the concept and elicit public input. The entire concept must be marketed to the broadest possible range of community interests, reflecting the fact that the proposed project will likely be the region's largest investment for many years to come.

Once sufficient public and private support is secured design and final funding processes would be initiated. Government agencies--through a Joint Powers Agency--would oversee construction of all infrastructure, while Suntrain Inc., through the local private entity, would manage construction of all equipment, stations and related facilities.

Mono Railway
PROJECT MANAGEMENT

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* *Suntrain carries program from inception to operations*
* *Suntrain understands complexities and subtleties of such programs*
* *Consulting work subcontracted to qualified national **and** local firms*

Suntrain Inc.: Unlike most conventional railroad development programs Suntrain Inc. will carry the program from inception to completion, in concert with a local entity (e.g., "Mono Rwy. Inc.").

This approach is based on the recognition that such projects are complex--technically, financially and politically--and can best be managed by a private firm with a total committment to the project, and no other agenda. In addition, Suntrain and its network of associates brings considerable experience, and competitive new concepts, to the program.

Consultants: Suntrain will subcontract much of the engineering and architectural work to a major national engineering firm with extensive experience in railroad design worldwide. Economic analysis and related matters will be handled by a San Francisco Bay Area firm with extensive experience in California economic issues, and local government.

Suntrain will emphasize local consulting firms for as much work as possible. This approach is based on the belief that many local firms--engineers, lawyers, etc.--have the kind of detailed and often subjective knowledge of local conditions that **no** outside firm will ever know.

Managment Approach: Suntrain will work with a locally formed entity to create documentation of the entire concept. Suntrain will manage a series of public meetings where community members will be encouraged to take part in the design of the whole system. This will result in both a more politically viable project, and a development process that is more "self-managing" simply because all community members will be proceeding with a clear concept closely related to their other on-going concerns.

The development of the proposed system is a distinctly different management task compared to operation. Thus Suntrain will staff and train operating company management in the monthes preceding operations.

Mono Railway
FINANCING PLAN

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* *Public infrastructure finance, private for stations and equipment*
* *Portion of funding diverted from highway widening programs*
* *Private funds for stations and equipment*

Financial Structure: The proposed railway will involve public finance for track and related infrastructure, and private for all equipment, stations and shops. It is expected rail and station operations will be fully profitable, achieving a return in excess of 15% on average.

Public Finance: Two major sources: Regional finance through special assessment districts around stations, where property improvements made because of the railroad result in higher property taxes contributed to the railway's infrastructure; and outside government finance, including state and federal sources (See **Exhibit Six**).

California and Nevada state funds would be justified as a means of assisting a program of economic development along the Eastern Sierra. Railroad development would be the best way to achieve that objective. Further highway widening would **not** solve access problems--the railroad would. Thus funds that would otherwise contribute to widening 395 could be committed to rail construction. Local and state road maintenance costs would also be reduced due to diversion of freight and passenger traffic to rail, which is inherently less costly to maintain.

Notably, a gas tax increase to fund rail programs in California is becoming increasingly likely, and more federal funds are likely as well.

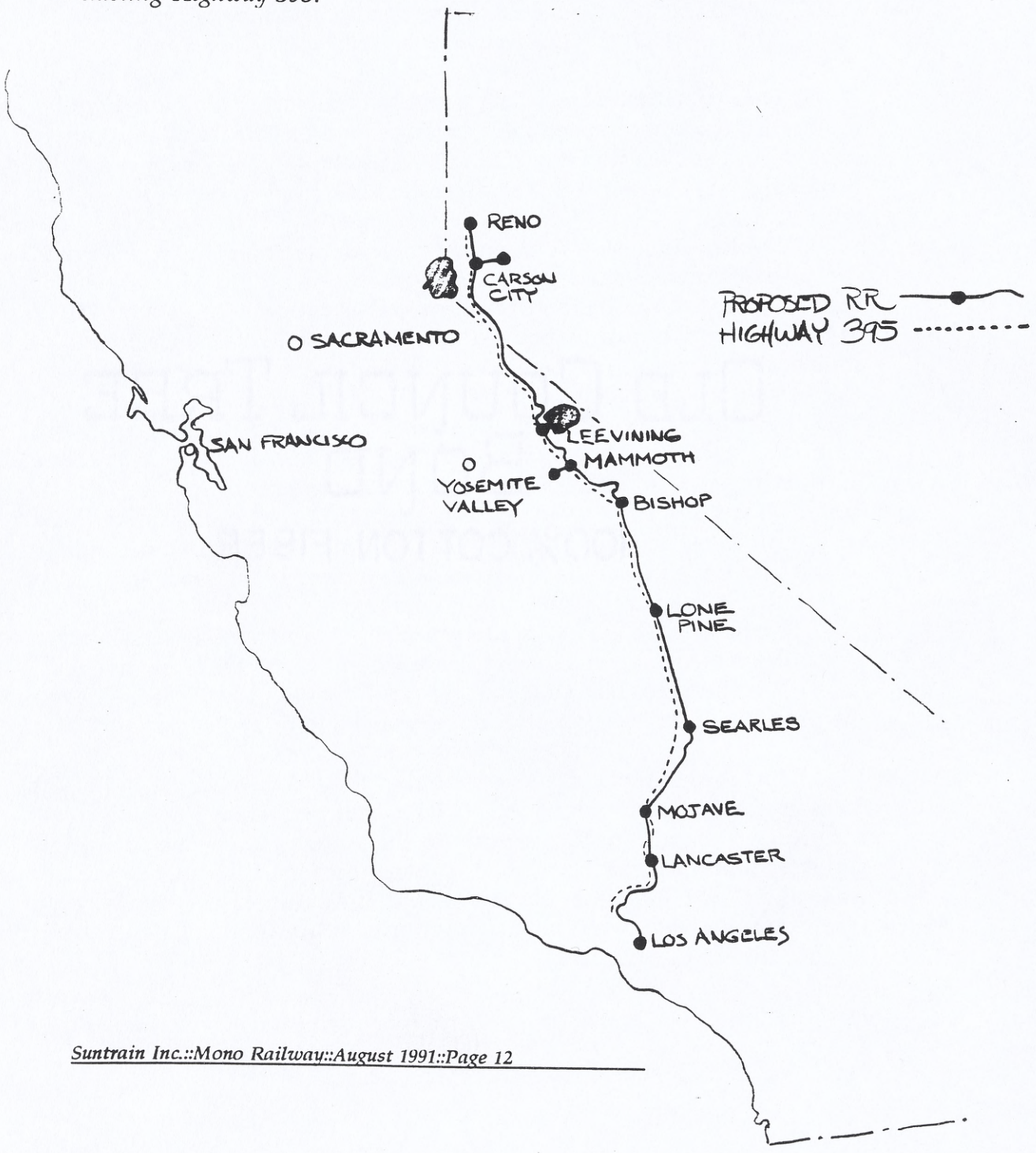
It is expected that public finance will be more possible to the degree the project emphasizes economic development, not merely transportation.

Private Finance: It is expected that the track would be built with 100% public funds. However, private railroads **may** be willing to contribute a significant portion due to the value of the route for freight service. Equipment finance can be arranged through a number of existing financing firms. Station finance would, in most cases, simply be a standard real estate development program with conventional debt/equity finance by local institutions.

Mono Railway

EXHIBIT ONE: MAP OF PROPOSED ROUTE

Map shows the probable route of the proposed Mono Railway in relation to existing Highway 395.



Mono Railway
EXHIBIT TWO: MILEAGE, TIME & STATIONS

	Station Scale	Miles	Trip Time
1.) L.A. Union Station:	10	0	00:00
2.) Burbank:	6	11	00:12
3.) San Fernando:	5	20	00:18
4.) Solemint:	2	37	00:35
5.) Soledad Pass:	2	57	00:59
6.) Palmdale:	4	64	01:07
7.) Rosamond:	2	82	01:20
8.) Mojave:	4	96	01:30
9.) Saltdale:	1	123	01:50
10.) Searles:	1	143	02:05
11.) Inyokern:	2	160	02:17
12.) Little Lake:	1	181	02:33
13.) Dunmovin:	1	192	02:41
14.) Olancha:	2	206	02:51
15.) Bartlett:	3	220	03:01
16.) Lone Pine:	6	229	03:07
17.) Kearsarge:	3	243	03:16
18.) Bishop:	8	274	03:36
19.) Rovana:	2	288	03:50
20.) Sherwin Summit:	1	302	04:06
21.) Tom's Place:	2	309	04:14
22.) Mammoth Jct.:	8	324	04:29
23.) Crestview:	2	344	04:53
24.) June Lake Jct.:	4	350	04:59
25.) Lee Vining:	7	362	05:09
26.) Conway:	1	376	05:25
27.) Bridgeport:	5	388	05:39
28.) Fales:	1	401	05:52
29.) Sonora Jct.:	2	407	05:59
30.) Walker:	3	420	05:14
31.) Topaz:	2	428	05:20
32.) Holbrook Jct.:	1	437	05:29
33.) Minden:	4	456	05:51
34.) Carson City:	7	486	06:02
35.) Reno:	8	506	06:22

Mono Railway

EXHIBIT THREE: TRACK, ROUTE CONDITIONS

Track Segments

1.) **L.A. Union Station to Mojave (96 miles):** Existing Southern Pacific mainline, may be upgraded under existing state plans.

2.) **Mojave to Searles (47 miles):** Existing Southern Pacific branchline. Requires upgrading for higher speeds and new passing tracks.

3.) **Searles to Bishop (131 miles):** Former Southern Pacific branchline. Requires new single track with passing tracks. Most of roadbed intact.

4.) **Bishop to Mammoth Jct. (approx. 50 track miles):** All new route, single track. Segments of former highway 395 and dirt roads may be viable for portions of route. May require significant bridges and tunnels.

5.) **Mammoth Jct.-Mammoth Mt. (approx. 10 miles):** All new branchline, track would be landscaped with parallel trail. Would be integrated with existing roads and developed areas.

6.) **Mammoth Jct. to Lee Vining (38 miles):** All new single track paralleling highway 395 or existing roads. No major tunnels or bridges.

7.) **Lee Vining to Bridgeport (26 miles):** All new single track paralleling highway 395, diverging over Conway Summit to gain elevation.

8.) **Bridgeport to Minden: (68 miles):** All new single track, generally paralleling highway 395.

9.) **Minden to Carson City (30 miles):** All new single track on former Virginia & Truckee RR roadbed.

10.) **Carson City to Virginia City (28 miles):** All new single track on former Virginia & Truckee roadbed.

11.) **Carson City to Reno (26 miles):** All new single/double track on former Virginia & Truckee roadbed, and new right-of-way around Reno.

Mono Railway

EXHIBIT FOUR: STATION OPPORTUNITIES

All stations between L.A. Union Station and Mojave would be developed in concert with other rail programs planned by state/L.A. County.

Saltdale:	Flagstop
Searles:	Flagstop, serves Trona community
Inyokern:	Station serving China Lake community, van service
Little Lake:	Recreation access station
Dunmovin:	Flagstop
Olancha:	Recreation access station
Bartlett:	Flagstop
Lone Pine:	Recreation and general access, van service
Kearsarge:	Recreation and general access, van service
Bishop:	All retail services, vans, rental cars,
Rovana:	Recreation access, camping services
Sherwin Summit:	Recreation access, camping services
Tom's Place:	Recreation access, lodging/food, vans
Mammoth Jct.:	All retail services, vans and rental cars
Mammoth Lakes:	All retail services, vans
Mammoth Mt.:	Numerous local stops, recreation access
Crestview:	Recreation access, camping services
June Lake Jct.:	All retail services, vans
Lee Vining:	All retail services, vans, rental cars (Yosemite)
Conway:	Recreation access, camping services
Bridgeport:	All retail services, vans, rental cars
Fales:	Flagstop
Sonora Jct.:	Recreation access, camping services
Walker:	All retail services, vans
Topaz:	Recreation access, vans
Holbrook Jct.:	Flagstop
Minden:	All retail services, vans, rental cars
Carson City:	All retail services, vans, rental cars
Virginia City:	All retail services, vans, rental cars
Reno:	All retail services, vans, rental cars

Notes: "All retail services" means restuarant(s), convenience store and other retail businesses. "Camping services" means equipment rental and supplies.

Mono Railway

EXHIBIT FIVE: PROJECT SCHEDULE

	Monthes: Minimum	*Maximum*
Project Planning		
- Phase One, Concept Marketing:	18	24
- Phase Two, Design:	12	18
- Phase Three, Capitalization:	18	24
Elapsed Time:	48	66
Project Construction		
- Track, Stations, Equipment:	24	48

Total Development Time

Assuming "fast track" scheduling with an increasing degree of parallel design processes as the project proceeds, which can reduce cost and time, it is possible to complete the project within six years (1991 to 1996-97.

Paradoxically the most critical period of the project's development is the first 18-24 month concept marketing phase. Subsequent phases, and financing, proceeds in **direct relation** to the level and quality of consensus achieved in the project's first phase.

It is significant that the project involves a high degree of existing rights-of-way, right-of-way on government lands, and relatively low population density. These conditions, coupled with a major recreation market drawing from Los Angeles, contribute greatly to the project's overall viability.

Mono Railway

EXHIBIT SIX: PROJECT FINANCE

I.) Estimated Budget

A.) Project Planning

- Phase One, Concept Marketing:	$ 150,000.
- Phase Two, Design:	$1,500,000.
- Phase Three, Capitalization:	$1,500,000.

B.) Project Construction (*):

- Track:	$1.3 (bil.)
- Stations:	$ .015
- Equipment (100 railcars):	$ .150

II.) Funding Sources by Phase

A.) Project Planning

- Phase One: Local, private funding
- Phase Two: Local/regional, private and government
- Phase Three: Local/state/federal government, private

III.) Funding Sources by Project Element

A.) Right-of-way Acquisition
- Donation of land and/or easements, private or government
- Purchase, state funds

B.) Track Construction
- Diversion of Ca./Nev. funds for widening hwy. 395 (**)
- Bond issue under increased state gas tax (***)
- Special assessment districts around stations
- Federal funds (under transportatation and/or Parks)
- Private, from railroads keyed to freight revenue potential

C.) Station Construction
- Private developers (conventional retail real estate program)
- County/City government, federal park funds

D.) Equipment Purchase
- All private funding, lease and/or ownership

Notes:

(*) This is a "ball-park" estimate based on average costs of similar projects

(**) Track construction costs range from $3.-$6 mil. per mile, highway widening about $4.-$8. mil. per mile.

(***) Assumes political trends favor gas tax increase for rail development.

VISION WORKS

A Cry for Leadership: In countless newspaper and television editorials observers of the social scene in the U.S. of the late 20th Century call for leadership, for vision, yet little of these precious commodities seem forthcoming.

Overwhelming Problems: In many areas of U.S. society we see staggering problems that seem intractable; e.g., crime, poverty, urban decay, loss of jobs, and pollution. One problem, transportation, is particularly troublesome, given its staggering economic and environmental implications; a problem that seems to be worsening at 80 miles per hour while our ability to develop solutions crawls along at 10 miles per hour.

Transportation "Crisis:" Transportation, in much of the U.S., is consistently ranked as one of the top three issues in the public mind. The U.S. highway network now suffers from about $2 trillion worth of deferred maintenance; ie., existing maintenance budgets are **not** covering all maintenance costs. In addition, the U.S. is burdened by excessive dependence on automobiles, an extraordinary cost in relation to the fact that the U.S. now competes globally with countries who are no where near as dependent on cars, and are far more reliant on railroads.

Resurging Railroads: While there is a resurgence of railroad development in the U.S., in freight and passenger services, this activity is still inadequate in terms of making a serious dent in auto dependency. The limitation is largely due to the rate at which government agencies can develop service. While the projects--e.g., a 20 mile light rail system--take less than five years to actually build the government agencies invariably size the project below the market potential and expand too slowly with prosaic service.

Looking to the Wrong Source: Conventional wisdom says that a solution to the transportation crisis must be developed by government and/or major corporations--most people assume that such massive problems must be addressed by equally massive organizations. But unfortunately these organizations are almost always extremely bureaucratic, inconsistent in their management, and slow to respond to new problems. Plus, they are characteristically skeptical and even hostile to innovations. In short, we are expecting vision and innovation from the least likely sources.

Specialization Confines: The dominant educational and professional approach is specialization. This has had the effect of causing most people to see problems in isolated and disconnected ways. Financial professionals see only financial issues, engineers see only engineering, and few see the **relationships** between it all. In relation to government operated transportation systems specialization results in projects conceived by specialists and thus designed to meet specialized objectives. As a result we get railroads designed for commuting because that's the specific objective of one government agency.

History of Vision: Even a cursory examination of U.S. history clearly reveals two glaringly obvious facts: One, that virtually all major problems we've faced were solved in one person's mind first, and later developed; and two, that the development of virtually all these programs involved the leadership of one person, then a small group, and then a larger organization. Upon closer examination we find that the one person, usually referred to as a "visionary" or "entreprenuer," was **not** a specialist in any one area but had a grasp of many areas, thus they saw the relationships--they were, and are, "generalists."

Paradox of Innovation: The lessons of history--in business or politics--suggest that the innovator nearly always comes out of "left field," what they create is unexpected and has unexpected outcomes, and what they propose is invariably seen as "crazy" or impractical by many. But most importantly what they propose is often a "big vision;" big in physical scale and/or implications.

Big Visions Work: **Society cries for vision and leadership but looks in all the wrong places; assumes the specialists must know what to do yet all too often they are blinded by their own specialization; expects the "team" will solve the problem yet history says lone individuals almost always generate the solution; and decries the lack of visionary solutions yet when one appears they say it won't work, or "they" won't like it (whoever "they" might be).**

The history of transportation is a litany of big visions, many of which we live with; e.g., the transcontinental railroad, Golden Gate Bridge, and even companies like Federal Express, Pan Am, and Ford Motor Company. All these efforts germinated in one mind, grew by the persistence of one person, were viewed as too radical, yet all worked and all involved huge sums of money.

Big visions work not because they are coldly practical, although they must be to some degree, but because they inspire action; because they are based on a belief in what we can do, not in what we've done; and because they express our faith, not our fear.

Christopher C.Swan

TRANSPORTATION MYTHS & FACTS

Problem: Traffic congestion in major cities and recreation areas.
Fiction: *"People won't get out of their cars."*
FACT: If provided with quality rail service significant portions of those driving major routes will take trains--3-30% of intercity travelers, 30-70% of commutors.

Problem: Time associated with building rail systems.
Fiction: *"It takes forever to build major new rail systems."*
FACT: More than 15 all new "light" and "heavy" rail systems have been built in the U.S. in the 1980s; most in under 5 years, many with new track in city streets.

Problem: Time required to locate right-of-way and purchase.
Fiction: *"You have to build all new track, that will take forever."*
FACT: There is a 140,000 mile network of existing track throughout the U.S. now used to a fraction of its capacity by freight railroads. While some new track is required in some areas there is a huge potential given only what exists.

Problem: Support from public agencies is required, projects can't be all private.
Fiction: *"Government agencies have no money and don't support big projects."*
FACT: In the last decade development of over 15 major rail systems already built, and 20 systems in planning has happened by support from county/city government despite tight budgets, and little/no state or federal support.

Problem: Rail requires public funds for infrastructure.
Fiction: *"There's no money for new projects, governments are all but bankrupt."*
FACT: Cities, counties and states have found funds from sales taxes, highway program funding, existing transit budgets, and limited federal grants.

Problem: Public-Private rail development requires private funding.
Fiction: *"Private sector isn't interested in long term capital intensive projects."*
FACT: Private funding is available for railroad projects of all types, billions have been committed to **hundreds** of new freight railroads/rail services in past decade with a growing portion going towards passenger services, including high-speed intercity rail, finance of Amtrak equipment, and recreation rail services.

Problem: New taxes often required for major rail programs.
Fiction: *"Voters are loathe to vote for new taxes for anything."*
FACT: In California and numerous other states voters have approved initiatives to sell bonds and/or raise taxes for **rail** programs.

Problem: Government dominates rail transit, intercity passenger train business.
Fiction: *"It's government's job to develop rail services."*
FACT: Although government now dominates the industry Amtrak projects profitable and independent operation by 2000, and a growing number of government agencies are calling for privatization.

Problem: Rail projects require considerable political support.
Fiction: *"Rail is too risky because of politics and complexity."*
FACT: Short development times already demonstrated by existing systems amply prove there is strong public support nationwide. In addition there is no fundamental difference between a large real estate venture and a major rail development project; same approval and marketing processes required.

Problem: Resources required to develop rail are significant.
Fiction: *"A small new company can't just enter such a capital intensive business."*
FACT: Small, understaffed and often poorly financed government agencies are regularly developing major rail systems costing in excess of $100 million. Qualification is not so much a matter of financial resources but of **information** resources, political networking, and persistence.

Problem: The rate of return on rail passenger services.
Fiction: *"Passenger trains don't make money."*
FACT: Existing rail services operated by government were not expected to make money but some are now making an operating profit; e.g., covering more than their operating costs and some of their capital costs. Some passenger operations now planned can be fully profitable with no subsidy, others require subsidy on infrastructure development costs--ie., new track or track improvements.

Problem: Projects are often very large and capital intensive.
Fiction: *"Big and complex projects are problematical and often don't work."*
FACT: Existing rail projects built in the 1980s represent $100 to $1 billion dollar efforts, many of which were completed on-time and on-budget. Big projects can be problematical **if** new technology is tried, but not if most technology is proven.

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